1.   (Amended) A method for minimizing noise in an integrated circuit comprising:

choosing a net to be analyzed;

determining if the total path length of conductive paths coupled to a driver within

5   said net exceed a maximum acceptable length for that given driver according to a

minimum acceptable noise level for that given net, as determined by examination of a

curve associated with the driver; and

inserting at least one buffer within said net at a position which is within the

maximum acceptable length for conductive paths coupled to said driver, when the total

10   path length of conductive paths coupled to the driver exceeds a maximum acceptable

length for the driver according to a minimum acceptable noise level for that given net, as

determined by examination of the curve associated with the driver.

2.   (Amended) A computer readable media containing program instructions

15   that, when executed, exercise code for minimizing noise in an integrated circuit, the

computer readable media comprising:

program instructions for choosing a net to be analyzed;

program instructions for determining if the total path length of conductive paths

coupled to a driver within said net exceed a maximum acceptable length for that given

20   driver according to a minimum acceptable noise level for that given net, as determined by

examination of a curve associated with the driver; and

program instructions for inserting at least one buffer within said net at a position

which is within the maximum acceptable length for conductive paths coupled to said

driver, when the total path length of conductive paths coupled to the driver exceeds a

maximum acceptable length for the driver according to a minimum acceptable noise level for that given net, as determined by examination of the curve associated with the driver.

3.   (Amended) A method for minimizing noise in an integrated circuit

5   comprising:

choosing a net to be analyzed;

determining if the total path length of conductive paths coupled to a first driver within said net exceed a maximum acceptable length for said first driver according to a minimum acceptable noise level for said net, as determined by examination of a curve

10   associated with the driver;

determining if a second driver exists which provides a stronger signal output than said first driver and which also is available to replace said first driver;

replacing said first driver with said second driver;

determining, once said first driver is replaced, if the total path length of

15   conductive paths coupled to said second driver within said net exceed a maximum acceptable length for said second driver according to a minimum acceptable noise level for said net, as determined by examination of a curve associated with the second driver; and

inserting at least one buffer within said net at a position which is within the

20   maximum acceptable length for conductive paths coupled to said driver, when the total path length of conductive paths coupled to the driver exceeds a maximum acceptable length for the driver according to a minimum acceptable noise level for that given net, as determined by examination of the curve associated with the driver.

4. (Amended) A computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit, the computer readable media comprising:

program instructions for choosing a net to be analyzed;

5   program instructions for determining if the total path length of conductive paths coupled to a first driver within said net exceed a maximum acceptable length for said first driver according to a minimum acceptable noise level for said net, as determined by examination of a curve associated with the second driver;

program instructions for determining if a second driver exists which provides a 10   stronger signal output than said first driver and which also is available to replace said first driver;

program instructions for replacing said first driver with said second driver;

program instructions for determining, once said first driver is replaced, if the total path length of conductive paths coupled to said second driver within said net exceed a 15   maximum acceptable length for said second driver according to a minimum acceptable noise level for said net, as determined by examination of a curve associated with the second driver; and

program instructions for inserting at least one buffer within said net at a position which is within the maximum acceptable length for conductive paths coupled to said 20   driver, when the total path length of conductive paths coupled to the driver exceeds a maximum acceptable length for the driver according to a minimum acceptable noise level for that given net, as determined by examination of the curve associated with the driver.

5. (New) The method for minimizing noise in an integrated circuit according 25   to claim 1, wherein the curve defines a relationship between noise amplitude and

conduction path length for the driver.

6.   (New) The method for minimizing noise in an integrated circuit according to claim 5, wherein the curve defines a maximum allowable noise amplitude for the net.

5

7.   (New) The method for minimizing noise in an integrated circuit according to claim 1, wherein the insertion of at least one buffer within the net occurs at a position corresponding to, approximately but no more than, the maximum acceptable length for conductive paths coupled to the driver, as determined by examination of the curve

10   associated with the driver.

8.   (New) The method for minimizing noise in an integrated circuit according to claim 7, wherein the curve associated with the driver defines a relationship between noise amplitude and conduction path length for the driver.

15

9.   (New) The method for minimizing noise in an integrated circuit according to claim 8, wherein the curve defines a maximum allowable noise amplitude for the net.

10.   (New) The method for minimizing noise in an integrated circuit according

20   to claim 1, wherein an iterative scheme is implemented such that all nets of the integrated circuit are subjected to the method for minimizing noise in the integrated circuit.

11.   (New) The method for minimizing noise in an integrated circuit according to claim 10, wherein an inserted buffer results in a modified downstream net

25   configuration to be considered in subsequent iterations of the method for minimizing

noise in the integrated circuit.

12.   (New) The method for minimizing noise in an integrated circuit according to claim 1, wherein an iterative scheme is implemented such that fewer than all nets of

5   the integrated circuit are subjected to the method for minimizing noise in the integrated circuit.

13.   (New) The method for minimizing noise in an integrated circuit according to claim 12, wherein an inserted buffer results in a modified downstream net

10   configuration to be considered in subsequent iterations of the method for minimizing noise in the integrated circuit.

14.   (New) The method for minimizing noise in an integrated circuit according to claim 1, wherein the determination of the total path length of conductive paths coupled

15   to a driver within said net includes a plurality of intersecting conduction paths.

15.   (New) The method for minimizing noise in an integrated circuit according to claim 14, wherein an insertion position of at least one buffer along the plurality of conduction paths is chosen to yield a most acceptable integrated circuit timing

20   characteristic.

16.   (New) The method for minimizing noise in an integrated circuit according to claim 3, wherein the curve defines a relationship between noise amplitude and conduction path length for the driver.

25

17. (New) The method for minimizing noise in an integrated circuit according to claim 16, wherein the curve defines a maximum allowable noise amplitude for the net.

5
18. (New) The method for minimizing noise in an integrated circuit according to claim 3, wherein the insertion of at least one buffer within the net occurs at a position corresponding to approximately but no more than, the maximum acceptable length for conductive paths coupled to the driver, as determined by examination of the curve associated with the driver.

10
19. (New) The method for minimizing noise in an integrated circuit according to claim 18, wherein the curve associated with the driver defines a relationship between noise amplitude and conduction path length for the driver.

20. (New) The method for minimizing noise in an integrated circuit according
15 to claim 19, wherein the curve defines a maximum allowable noise amplitude for the net.

21. (New) The method for minimizing noise in an integrated circuit according to claim 3, wherein an iterative scheme is implemented such that all nets of the integrated circuit are subjected to the method for minimizing noise in the integrated circuit.

20
22. (New) The method for minimizing noise in an integrated circuit according to claim 21, wherein an inserted buffer results in a modified downstream net configuration to be considered in subsequent iterations of the method for minimizing noise in the integrated circuit.

25

23.   (New) The method for minimizing noise in an integrated circuit according to claim 3, wherein an iterative scheme is implemented such that fewer than all nets of the integrated circuit are subjected to the method for minimizing noise in the integrated circuit.

5

24.   (New) The method for minimizing noise in an integrated circuit according to claim 23, wherein an inserted buffer results in a modified downstream net configuration to be considered in subsequent iterations of the method for minimizing noise in the integrated circuit.

10

25.   (New) The method for minimizing noise in an integrated circuit according to claim 3, wherein the determination of the total path length of conductive paths coupled to a driver within said net includes a plurality of intersecting conduction paths.

15

26.   (New) The method for minimizing noise in an integrated circuit according to claim 25, wherein an insertion position of at least one buffer along the plurality of conduction paths is chosen to yield a most acceptable integrated circuit timing characteristic.

20

27.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to claim 2, wherein the curve defines a relationship between noise amplitude and conduction path length for the driver.

25

28.   (New) The computer readable media containing program instructions that,

when executed, exercise code for minimizing noise in an integrated circuit according to

claim 27, wherein the curve defines a maximum allowable noise amplitude for the net.

       29.   (New) The computer readable media containing program instructions that,

5   when executed, exercise code for minimizing noise in an integrated circuit according to

claim 2, wherein the insertion of at least one buffer within the net occurs at a position

corresponding to, approximately but no more than, the maximum acceptable length for

conductive paths coupled to the driver, as determined by examination of the curve

associated with the driver.

10

       30.   (New) The computer readable media containing program instructions that,

when executed, exercise code for minimizing noise in an integrated circuit according to

claim 29, wherein the curve associated with the driver defines a relationship between

noise amplitude and conduction path length for the driver.

15

       31.   (New) The computer readable media containing program instructions that,

when executed, exercise code for minimizing noise in an integrated circuit according to

claim 30, wherein the curve defines a maximum allowable noise amplitude for the net.

20   32.   (New) The computer readable media containing program instructions that,

when executed, exercise code for minimizing noise in an integrated circuit according to

claim 2, wherein an iterative scheme is implemented such that all nets of the integrated

circuit are subjected to the method for minimizing noise in the integrated circuit.

25   33.   (New) The computer readable media containing program instructions that,

when executed, exercise code for minimizing noise in an integrated circuit according to claim 32, wherein an inserted buffer results in a modified downstream net configuration to be considered in subsequent iterations of the method for minimizing noise in the integrated circuit.

5

34.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to claim 2, wherein an iterative scheme is implemented such that fewer than all nets of the integrated circuit are subjected to the method for minimizing noise in the integrated

10   circuit.

35.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to claim 34, wherein an inserted buffer results in a modified downstream net configuration

15   to be considered in subsequent iterations of the method for minimizing noise in the integrated circuit.

36.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to

20   claim 2, wherein the determination of the total path length of conductive paths coupled to a driver within said net includes a plurality of intersecting conduction paths.

37.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to

25   claim 36, wherein an insertion position of at least one buffer along the plurality of

conduction paths is chosen to yield a most acceptable integrated circuit timing characteristic.

38.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to claim 4, wherein the curve defines a relationship between noise amplitude and conduction path length for the driver.

39.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to claim 38, wherein the curve defines a maximum allowable noise amplitude for the net.

40.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to claim 4, wherein the insertion of at least one buffer within the net occurs at a position corresponding to, approximately but no more than, the maximum acceptable length for conductive paths coupled to the driver, as determined by examination of the curve associated with the driver.

41.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to claim 40, wherein the curve associated with the driver defines a relationship between noise amplitude and conduction path length for the driver.

42.   (New) The computer readable media containing program instructions that,

when executed, exercise code for minimizing noise in an integrated circuit according to claim 41, wherein the curve defines a maximum allowable noise amplitude for the net.

43.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to claim 4, wherein an iterative scheme is implemented such that all nets of the integrated circuit are subjected to the method for minimizing noise in the integrated circuit.

44.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to claim 43, wherein an inserted buffer results in a modified downstream net configuration to be considered in subsequent iterations of the method for minimizing noise in the integrated circuit.

45.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to claim 4, wherein an iterative scheme is implemented such that fewer than all nets of the integrated circuit are subjected to the method for minimizing noise in the integrated circuit.

46.   (New) The computer readable media containing program instructions that, when executed, exercise code for minimizing noise in an integrated circuit according to claim 45, wherein an inserted buffer results in a modified downstream net configuration to be considered in subsequent iterations of the method for minimizing noise in the integrated circuit.